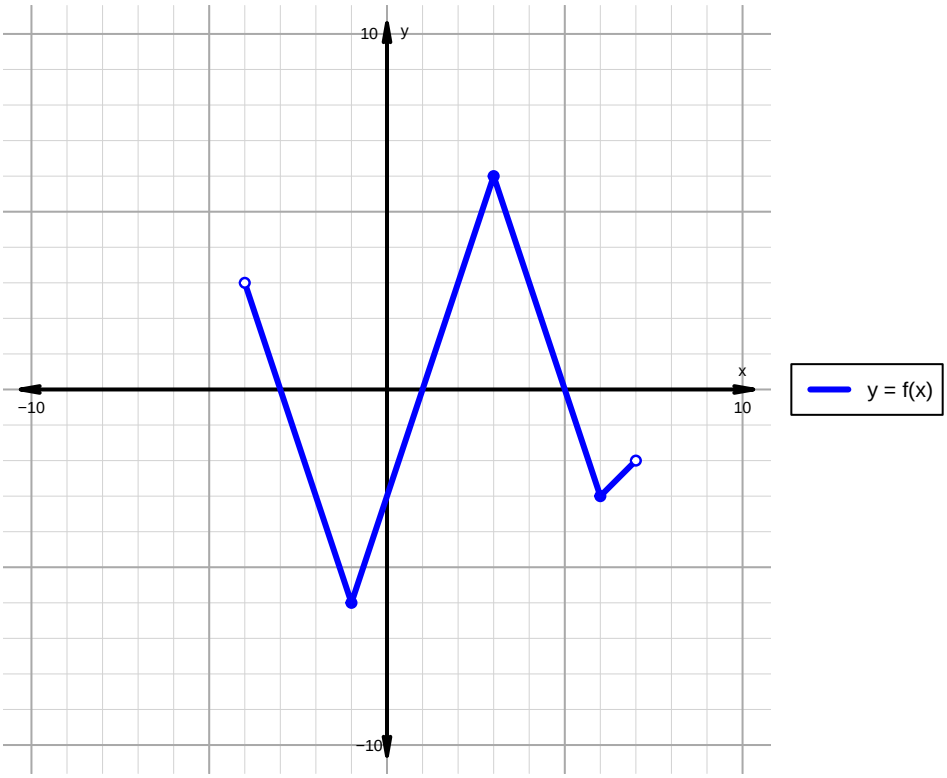
Name: Date:

Intervals, Transformations, and Slope Solution (version 166)

1. The function f is graphed below.



Indicate the following intervals using interval notation. Remember, you can use $\cup$ between two intervals to indicate the union. Except for range, all intervals will indicate x values; this is standard.

Feature	Where
Positive	$(-4,-3)\cup(1,5)$
Negative	$(-3,1)\cup(5,7)$
Increasing	$(-1,3)\cup(6,7)$
Decreasing	$(-4,-1)\cup(3,6)$
Domain	$(-4,7)$
Range	$(-6,6)$

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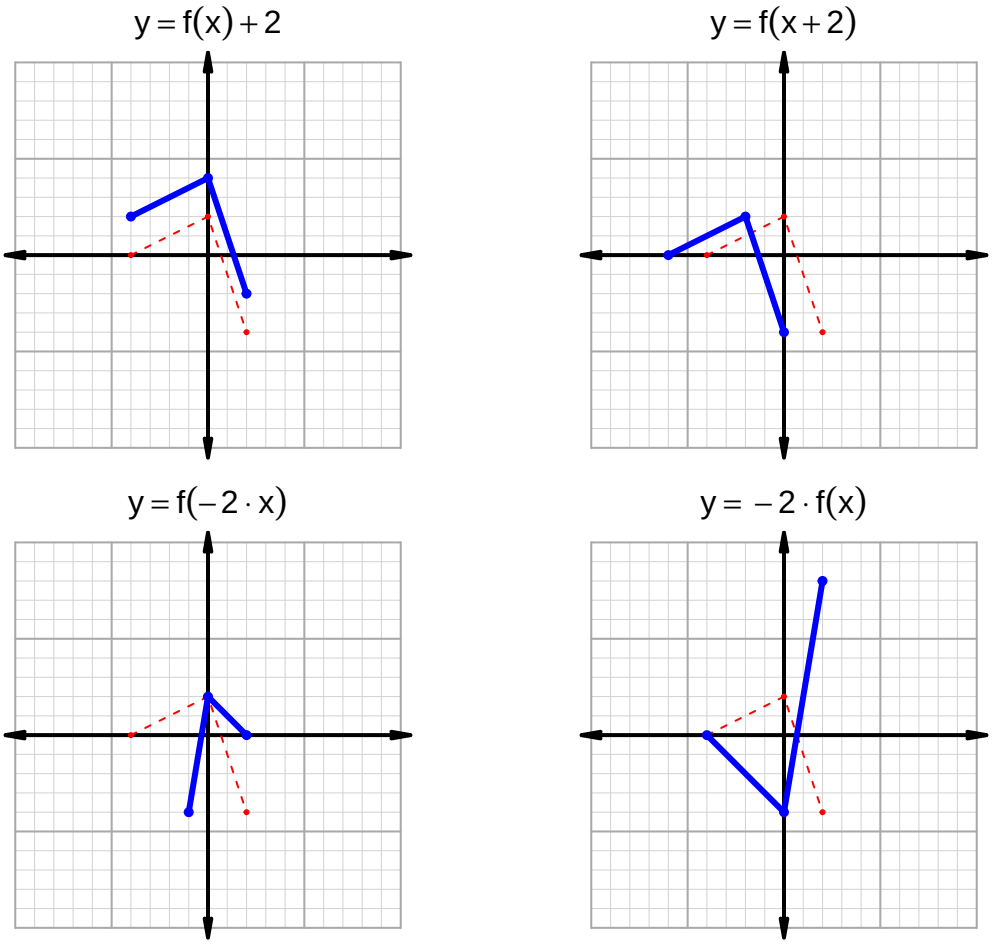
2. In the four graphs below, $y = f(x)$ is graphed as a dotted line. With a solid line, please graph the transformations indicated by the equations below.



3. Let function g be defined by the table below. Use the formula $\frac{g(x_2)-g(x_1)}{x_2-x_1}$ to find the average rate of change between $x_1 = 52$ and $x_2 = 70$. Express your answer as a reduced fraction.

x	$g(x)$
42	52
48	70
52	48
70	42

$\frac{g(70)-g(52)}{70-52} = \frac{42-48}{70-52} = \frac{-6}{18}$

The greatest common factor of -6 and 18 is 6. Divide numerator and denominator by the greatest common factor.

$$\text{AROC} = \frac{-1}{3}$$